TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No. ITL.0462US

In Re Application Of: **Kannan Raj and Werner Metz**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/839,023	April 20, 2001	Dalzid E. Singh	21906	2613	2391

Invention: **Optically Interconnecting Multiple Processors**

COMMISSIONER FOR PATENTS:

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November 17, 2006

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Dated: **December 15, 2006**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant: Kannan Raj and Werner Metz	§	Art Unit:	2613
Serial No.: 09/839,023	§	Examiner:	Dalzid E. Singh
Filed: April 20, 2001	§	Atty Docket:	ITL.0462US (P9816)
For: Optically Interconnecting Multiple Processors	§	Assignee:	Intel Corporation

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APPEAL BRIEF

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Nancy Meshkoff

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REAL PARTY IN INTEREST

The real party in interest is the assignee Intel Corporation.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Claims 1-4 (Rejected).

Claims 5-6 (Canceled).

Claims 7-15 (Rejected).

Claim 16 (Canceled).

Claims 17-30 (Rejected).

Claims 1-4, 7-15, and 17-30 are rejected and all but claims 7-8 are the subject of this Appeal Brief.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

In the following discussion, the independent claims are read on one of many possible embodiments without limiting the claims:

1. A multiprocessor device comprising:

a least three interconnected processors (12a, 12b, 12c, Figure 1) for direct communication between said processors; and

an optical transceiver (13a, 13b, 13c, Figure 1) coupled to each processor, said transceiver including a wavelength division multiplexer (13, Figure 1) to enable optical communications with the other processors, wherein said transceiver to notify a first of the three processors when a second of the three processors is receiving a signal from a third of the three processors (specification at page 8, line 20-page 9, line 3).

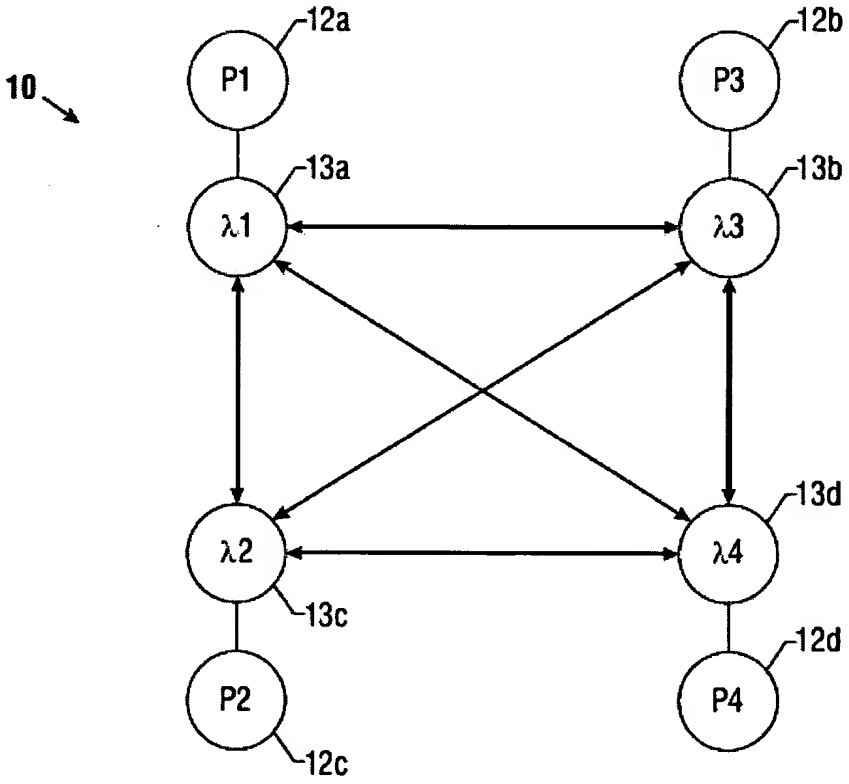

FIG. 1

11. A method comprising:

establishing a multiprocessor device including at least three directly interconnected processors (12a, 12b, 12c, Figure 1);

enabling optical communications between said processors using wavelength division multiplexing (specification at page 3, lines 16-26); and

notifying a first processor when a second processor is receiving an optical communication from a third processor (specification at page 8, line 20-page 9, line 3).

21. An article comprising a medium storing instructions that enable a first processor-based system of a multiprocessor-based device including a second processor-based system and a third processor-based system to:

identify a light communication from a second processor-based system intended for said first processor-based system (specification at page 4, lines 13-25);

tune to said wavelength (specification at page 4, lines 13-25); and

notify a first processor when a second processor is receiving an optical communication from a third processor (specification at page 8, line 20-page 9, line 3).

At this point, no issue has been raised that would suggest that the words in the claims have any meaning other than their ordinary meanings. Nothing in this section should be taken as an indication that any claim term has a meaning other than its ordinary meaning.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. **Whether claims 1-4, 9, and 10 are unpatentable under 35 U.S.C. § 103(a) over Nakata (US 5,500,857) in view of Li (US 6,385,371) and further in view of Asahi (US6,195,186) or Mo (US 6,693,909).**

B. **Whether claims 11-15 and 17-30 are unpatentable under 35 U.S.C. § 103(a) over Nakata (US 5,500,857) in view of Asahi (US6,195,186) and further in view of Mo (US 6,693,909).**

ARGUMENT

A. Are claims 1-4, 9, and 10 unpatentable under 35 U.S.C. § 103(a) over Nakata (US 5,500,857) in view of Li (US 6,385,371) and further in view of Asahi (US6,195,186) or Mo (US 6,693,909)?

Claim 1 calls for notifying a first of three processors when a second of the three processors is receiving a signal from the third of the three processors. This last element is rejected based on the teaching in column 17, lines 27-52 of Nakata. However, that material does not involve any communication between nodes (which are alleged in the office action to be processors). Instead, it merely relates to the assignment of the wavelength for a subsequent transmission.

The claim requires that a first processor be notified when a second of three processors is receiving a signal from a third of three processors. The assignment of the wavelength involves no communication. There is no signal between second and third nodes. The first sentence of the cited language in column 17 makes it clear that what is being talked about here is the assignment of wavelengths before any communication. As indicated at lines 35 and 36, a node extracts a free wavelength and updates the wavelength management table. Clearly, this involves no communication between two nodes. When a wavelength is in use, the bit assigned is set to one for that wavelength. See column 17, lines 41 and 42. Thus, there is no situation where when a second and third nodes are communicating, a first node is notified. At most what would happen in the situation cited in the passage relied upon, is that one node obtains a wavelength and the bit associated with that wavelength is changed in status. That bit change is not communicated to any other node. There is no communication between two processors.

In short, a selection of an available wavelength is done entirely by one node all by itself. It can do this by receiving the wavelength table selecting an unused wavelength and changing that wavelength to used status. No communication is required. No notification is provided to any other node in response to receiving a communication. All that is done is the table setting is changed, but this is not necessarily communicated to anyone else. It simply resides in the table and goes nowhere. There is no notification of a first of three processors when a second of three processors is receiving a signal from a third of the three processors. Moreover, the wavelength management table does not constitute a signal, but is merely data. The reference itself is clear

that the signal that is transmitted is after setting up the appropriate wavelength using the wavelength management table. See, for example, column 18, lines 26-32.

B. Are claims 11-15 and 17-30 unpatentable under 35 U.S.C. § 103(a) over Nakata (US 5,500,857) in view of Asahi (US6,195,186) and further in view of Mo (US 6,693,909)?

For the reasons set forth above, this rejection should be reversed.

Applicant respectfully requests that each of the final rejections be reversed and that the claims subject to this Appeal be allowed to issue.

Respectfully submitted,

Date: December 15, 2006

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CLAIMS APPENDIX

The claims on appeal are:

1. A multiprocessor device comprising:

a least three interconnected processors for direct communication between said processors; and

an optical transceiver coupled to each processor, said transceiver including a wavelength division multiplexer to enable optical communications with the other processors, wherein said transceiver to notify a first of the three processors when a second of the three processors is receiving a signal from a third of the three processors.

2. The device of claim 1 wherein each transceiver includes an optical transmitter including a laser.

3. The device of claim 1 wherein each transceiver includes an optical receiver tunable to a particular input wavelength.

4. The device of claim 1 wherein each processor is assigned a wavelength for communicating with the other processors.

7. The device of claim 1 wherein said coupler includes an dispersive element to disperse light reflected by said reflector.

8. The device of claim 7 wherein said dispersive element includes a microelectromechanical structure.

9. The device of claim 1 wherein each transceiver transmits a light beam together with a code identifying a sending and a receiving processor.

10. The device of claim 1 wherein, when one processor is receiving a wavelength division multiplexed signal from another processor, the one processor broadcasts to all other processors that the one processor is busy.

11. A method comprising:

establishing a multiprocessor device including at least three directly interconnected processors;

enabling optical communications between said processors using wavelength division multiplexing; and

notifying a first processor when a second processor is receiving an optical communication from a third processor.

12. The method of claim 11 including assigning a unique wavelength to each of said processors.

13. The method of claim 11 including scanning for the wavelengths of any of said other processors.

14. The method of claim 13 including transmitting a light beam having a predetermined wavelength, and transmitting a code that identifies the transmitting processor and the intended receiving processor.

15. The method of claim 14 wherein the receiving processor identifies the wavelength of the incoming beam and the code accompanying said beam, and locks to the wavelength of the transmitting processor.

17. The method of claim 15 including broadcasting the fact that the second processor is receiving a beam to all other processors in the device.

18. The method of claim 17 indicating when said second processor is no longer communicating with said third processor.

19. The method of claim 11 including using a code transmitted by the third processor to determine if a given processor is the intended recipient of a beam transmitted from the third processor.

20. The method of claim 11 including optically interconnecting each of said processors.

21. An article comprising a medium storing instructions that enable a first processor-based system of a multiprocessor-based device including a second processor-based system and a third processor-based system to:

identify a light communication from a second processor-based system intended for said first processor-based system;

tune to said wavelength; and

notify a first processor when a second processor is receiving an optical communication from a third processor.

22. The article of claim 21 further storing instructions that enable the first processor-based system to scan through a plurality of wavelengths of other processor-based systems to identify a signal intended for said first processor-based system.

23. The article of claim 21 further storing instructions that enable the first processor-based system to receive a code that indicates whether a given light communication is intended to be sent to said first processor-based system.

24. The article of claim 23 further storing instructions that enable said first processor-based system to tune to said wavelength to the exclusion of other wavelengths.

25. The article of claim 24 further storing instructions that enable said first processor-based system to broadcast a signal indicating that said first processor-based system is tuned exclusively to said wavelength.

26. The article of claim 25 further storing instructions that enable the first processor-based system to notify a third processor-based system when said first processor-based system is no longer engaged in a communication with said second processor-based system.

27. The article of claim 21 further storing instructions that enable said first processor-based system to identify a second processor-based system to communicate with and to determine whether said second processor-based system is currently occupied with a communication with another processor-based system.

28. The article of claim 21 further storing instructions that enable said first processor-based system to communicate with at least two other processor-based systems using optical communications and wavelength division multiplexing.

29. The article of claim 28 further storing instructions that enable said first processor-based system to communicate with other processor-based systems using an assigned wavelength.

30. The article of claim 29 further storing instructions that enable said first processor-based system to transmit a code that identifies said first processor-based system and an intended receiving processor-based system.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.